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Serial No.: 10/016,869

LISTING OF CLAIMS

This listing of the claims replaces all prior versions and listings of claims in the application:

1. (Previously Cancelled)
2. (Previously Amended) A method as claimed in claim 7 wherein the curve comprises a low frequency with respect to the light-off time, representing a change trend of the varying rate.
3. (Previously Amended) A method as claimed in claim 7 wherein the curve has an increasing trend and comprises an oscillatory profile.
4. (Previously Amended) A method as claimed in claim 7 wherein the curve has an increasing trend and comprises a series of spikes.
5. (Previously Amended) A method as claimed in claim 7 wherein the curve has an increasing trend and comprises a squared-off wave profile.
6. (Previously Amended) A method as claimed in claim 7 wherein the curve has an increasing trend and comprises a step profile.
7. (Currently Amended) A method of engine starting in a gas turbine engine comprising:

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rotating the engine at ~~a varying~~ an increasing speed
as a function of time to accelerate the engine and
provide an air flow into a combustor of the engine;

injecting fuel into the combustor at a varying rate
during the acceleration of the engine until the
engine is lighted-off, the varying rate being a
function of time and represented by a curve having
at least one high frequency with respect to a
light-off time, representing instant changes of the
rate for intersecting a light-off zone while
reducing a quantity of fuel injected into the
combustor; and then,

continuously injecting fuel into the combustor to
accelerate the engine to a self-sustaining
operation condition.

8. (Currently Cancelled)

9. (Previously Amended) A method as claimed in claim 7
further comprising introduction of a predetermined
first fuel flow level into the combustor prior to fuel
injection at the varying rate.

10. (Previously Amended) A method as claimed in claim 9
further comprising: selecting a minimum engine speed
to begin the introduction of the predetermined first
fuel flow level for starting the engine under a
variety of altitude and temperature conditions.

11. (Original) A method as claimed in claim 10 further
comprising:

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sensing a temperature of the fuel to be injected into the combustor;

sensing a temperature of the air flow to be provided into the combustor;

sensing a forward flight velocity ram quantity;

sensing an ambient air pressure;

sensing the varying speed of the engine; and

processing the sensed data to determine the minimum engine speed for the introduction of the predetermined first fuel flow level.

12. (Previously Amended) A method as claimed in claim 7 further comprising: sensing a temperature of an exhaust gas flow to determine if the light-off occurs.
13. (Previously Amended) A method as claimed in claim 7 further comprising: biasing a profile of the curve representing the varying fuel injection rate according to changes in the altitude and temperature conditions.
14. (Previously Amended) A method as claimed in claim 7 further comprising: changing the predetermined first fuel flow level according to changes in the altitude and temperature conditions.
15. (Original) A method as claimed in claim 11 further comprising:

measuring a light-off time taken from the beginning of the introduction of the predetermined first fuel flow level, to the occurrence of the light-off; and

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storing the measured light-off time and the sensed data in a database for reference in a future engine starting process when a search shows no data associated with an altitude and temperature condition, similar to a current altitude and temperature condition generated in a previous light-off process and stored in the database.

16. (Original) A method as claimed in claim 15 further comprising:

changing a criterion of the minimum engine speed and the predetermined first fuel flow level to reduce the light-off time according to the stored data associated with the similar altitude and temperature condition, when such data is located in the database; and

storing data regarding the changes and the light-off time currently measured, and deleting the previously stored data of the minimum engine speed and the predetermined first fuel flow level and the previously stored light-off time associated with the similar altitude and temperature condition, when the current light-off time is shorter than the previously stored light-off time.